



	FORM PTO-1449		TMENT OF COMMERCE	Attorney D	ocket No.	00786/45	00786/450005		
(MODIFIED)		PATENTAN	D TRADEMARK OFFICE	Serial No.		09/822,58	35		
				Applicant		Becerra e	t al.		
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U.S. PATENTS									
Examiner's Initials	Patent Number	Issue Date	Patentee		Class	Subclass	Filing Date (If Appropriate)		
SS	4,960,815	10/2/90	Moos						
	6,298,258	10/2/01	Heid et al.		X				
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	OTHER DOCU	JMENTS (INCL	UDING AUTHOR, TITLE, D	DATE, PLAC	E OF PUBL	LICATION)			
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	*	OTHER DOCUMENTS (including Author, Title, Date, Pertirent Pages, Etc.)  Adolphs, R., Tranel, D., Damasio, H., and Damasio, A. (1994). Impaired recognition of emotion in facial expressions following bilateral													
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	•	I							787		nd the human amy d subcortical affer			_	
<del></del>		(Mac	aca mi	ulatta).	Brain F	7., and Res. 19	0, 347	-368. \	, R.E. (1990). C	orucai an	o subconical affer	ents to the ar	mygdaia in the r	nesus mon	, 
	*	Adler with f	, L.J., entany	Gyulai, Il analg	F.E., D esia eli	iehl, D ucidate	.i., Min Alay p	tun, M. Ositron	A., Winter, P.N emission tomo	l., and Fire graphy. A	estone, L.L ( 1997) nesth, Analg. 84, 1	). Regional b  20-126.	rain activity cha	nges assoc	lated
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	*										mbens attenuate a Pharmacol Exp Th				area
	*	Amar	al, D.G	and I	Price, J	.L. (19	84). Aı	mydgal	o-cortical proje	ctions in tl	he monkey (Macad	a fasciculari	s). J. Comp. Ne	urol. 230, 4	65-496.
	*			P, LeC					lateral amygda	ala outputs	s mediate reaction	s and actions	s elicited bya fea	ır-arousing	
	•										ed Articles Different Ohysiol, 1999 Jun;			to pain per	ception
	^•			inis, A., ind Bel					gal, P. (1996).	Effects of	excitotoxic lesions	s of the basa	l forebrain on M	FB self-stin	nulation.
	•	Bain, 1119-		and Ko	rnetsky	, C. ( 1	987). I	Valoxo	ne attenuation	of the effe	ct of cocaine on re	warding bra	in stimulation. Li	fe Science	s 40,
	*			T Jr, Ca osurg.					larino R Jr. Ste	reotaxic a	nterior cingulotom	y for neurops	sychiatric illness	and intract	table

Bandettini, P.A., Wong, E.C., Hinks, R.S., Tikofsky, R.S., and Hyde, J.S. (1992). Time course EPI of human brain function during task activation. Mag. Res. Med. 25, 390- 397.

Barasi S. Responses of substantia nigra neurones to noxious stimulation. Brain Res. 1979 Jul 27;171(1):121-30.

Examiner

Date

Form PTO-1449 (Rev. 8-83)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO. MGH-004AUS

APPLICATION NO. 09/729,665

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(Use several sheets if necessary)
AUG U 6 2004

Hans C. Breiter et al.

FILING DATE

APPLICANT

**GROUP** 

December 4, 2000

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PAD	FMR	U.S.	PATENT DO	DCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER OTHER DOCUMENTS	DATE	NAME or, Title, Date, Pertinent Pages,	CLASS	SUBCLASS	FILING DATE IF				
	* Barci	n, D.M., Braver, T.S., Nystrom, L.E., For ulty in human prefrontal cortex. Neurops	nan, S.D., Noll	D.C. and Cohen, J.D. (199)		ing working men	pory from task				
1		aum Al, Fields HL.Endogenous pain cor			nn Neurol, 1	978 Nov;4(5):45	1-62.				
1	* Baun Neuro	e A, Sommer FT, Erb M, Wildgruber *, K pimage. 1999 May;9(5):477-89.	ardatzki B, Pal	m a, Grodd W. Dynamical cl	uster analysi	s of cortical fMR	Il activation.				
	* Baxte	er, L.R., Schwartz, J.M., Phelps, M.E., Ma ontal cortex glucose metabolism common	azziotta, J.C., G	Suze, B.H., Selin, C.E., Gemo of depression. Arch Gen Ps	er, R.H., and	Sumida, R.M. ( 243-250.	1989). Reduction c				
	Becei	Becerra L, Breiter H, Jenkins L, aonzalez a, Borsook D. Early Activation of Reward/Aversive Circuitry following Noxious Thermal Stimuli: Dissociation of Motivation-Emotion Circuitry from Sensory-Discriminative Circuitry (in preparation).									
•	Becerra, L.R., Breiter, H.C., Stojanovic, M., Fishman, S., Edwards, A., Comite, A.R., Oonzalez, R.G., and Borsook, D. (1999). Human brain activation under controlled thermal stimulation and habituation to noxious heat: an fMRI study. Magnetic Res. in Medicine 41, 1044-1057.										
•	Bechara, A., Damasio, H., Tranel, D., and Damasio, A.R. (1998) Dissociation of working memory from decision making within the human prefrontal cortex. J. Neurosci. 18, 428-437.										
•	Behbe Prog l	Behbehani MM. Behaviors. Prog. Neurobiol. 3.247-279 Behbehani MM. Functional characteristics of the midbrain perlaqueductal gray. Prog Neurobiol. 1995 Aug;46(6):575-605.									
	Bellive	Belliveau, J.W., Kennedy, D.N., McKinsey, R.C., Buchbinder, B.R., Weiskoff, R.M., Cohen, M.S., Vevea, J.M., Brady, T.J., Rosen, B.R. (1991). Functional mapping of the human visual context by magnetic resonance imaging. Science 254, 716-719.									
•	Bench	n, C.J., Friston, K.J., Brown, R.G., Fracke silron emission tomography: The relation	wiak, R.S.J., a ship with clinic	nd Dolan, R.J. (1993). Regional dimensions. Psych. Med.	onal cerebral 23, 579-590.	blood flow in de	pression measure				
•	Bench	n, C.J., Friston, K.J., Brown, R.G., Scott, malities of cerebral blood flow in major d	L.C., Frackowia epression. Psy	ak, R.S.J., & Dolan, R.J. ( 19 ch. Med. 22, 607-615.	92). The ana	atomy of melanc	holia -focal				
*	Benne	ett, A.J., and Mayer, D.J. (1979). Inhibitio riaqueductal central gray matter. Brain F	n of spinal cord les. 172(2), 24	I interneurons by narcotic mi 3-257.	croinjection	and focal electri	cal stimulation in				
•	Berkov	witz, B.A Cerreta. K. V., and Spector. Sine as determined by radioimmunoassay	. (1974). The in . J Phannacol	fluence of physiologic and p Exp Ther. 191(3), 527-534.	hannacolog	ic factors on the	disposition of				
٠	Berns, 1275.	G.S., Cohen, J.D., & Mintun, M.A. (1997	7). Brain region	s responsive to novelty in th	e absence o	f awareness. So	ience 276, 1272-				
•	Bester	H. et al., The Spino(trigemino) Pontoa rophysiol. 1995 Feb; 73(2): 568-585.	mygdaloid Pati	nway: Electrophysiological E	vidence for /	An Involvement i	n Pain Processes.				
•	Blackb	um, J., Pfaus, J., & Phillips, A. (1992). D	opamine functi	ions in appetitive and defens	ive behavio	rs. Prog. Neurob	olol. 3, 247-279.				
		al., Dissociable neural responses to fac	ial expressions	of sadness and anger Brain	n (1999) <b>1</b> 22	, 883-893					
		d JF, Huang oF, Besson JM. Nucleus ce sivement in pain processes. J Neurophys			idus ventrali	s: electrophysiol	ogical evidence fo				
•	followin	urn, J., Phillips, A., Jakubovic, A., and Fing consumption of a nutritive meal but no 95-1100.									
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## U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO. MGH-004AUS APPLICATION NO. 097729,665

INFORMATION DISCLOSURE CITATION

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TADE AND	OTHER DOCUMENTS (includ	ling Author, Title, Date, Pertinent Pages, Etc.)	700						
•	Blackburn, J., Phillips, A., Jakubovic, A., and Fibige Behavioral Neuroscience 103(1), 15-23.	er, H. (1989). Dopamine and preparatory behavior: II.	a neurochemical analysis.						
•	Borod, 1.C., Koff, E., Perlman-Lorch, M., and Nicho patients. Neuropsychologia 24(2), 169-180.	olas; M. (1986). The expression and perception of fac	lal emotion in brain-damaged						
*	Borod, J.C., Koff, E., Perlman-Lorch, M., and Nicho damage. Arch. Neurology 42, 345- 348.	olas, M. (1985). Channels of emotional expression in (	patients with unilateral brain						
•	Botvinick M, Nystrom LE, Fissell K, Carter CS, Coh Nature. 1999 Nov 11 ;402(6758): 179-8l.	en JD. Conflict monitoring versus selection- for-action	n in anterior cingulate cortex.						
•	Boxerman, J.L., Bandettini, P.A., Kwong, K.K., Bake contribution to fMRI signal change: Monte Carlo mo	er, J.R., Davis, T.L., Rosen, B.R., and Weisskoff, R.N. odeling and diffusion-weighted studies in vivo. Magn.	1. (1995). The intravascular Reson. Med 34, 4-10.						
	Boynton et al., Linear sysems analysis of functional 1996, 16(13): 4207-4221	I magnetic resonance imaging in human V1, The jour	nal of neuroscience, July 1,						
	Bozarth MA, Wise RA. Involvement of the ventral tegmental dopamine system in opioid and psychomotor stimulant reinforcement. NIDA Res Monogr. 1986;67:190-6.								
•	Braver, T.S., Cohen, J.D., Nystrom, L.E., Jonides, Jinvolvement in human working memory. Neuroimag	J., Smith, E.E., and Noll O.C. (1997). A parametric st ge 5(1), 49-62,	udy of prefrontal cortex						
•	Breiter HC, BecelTa L, Gonzalez RO, Huffman, EK, human brain. (submitted to Neuron). (unpubli	Breiter HC, BecelTa L, Gonzalez RO, Huffman, EK, Harter K, Nenkris L, Comite A, Borsook D. Morphine activates reward circuitry in the human brain. (submitted to Neuron). (unpublished)							
•	Breiter HC, EtcoffNL, Whalen PJ, Kennedy W A, Roof the human amygdala during visual processing of	auch SL, Buckner RL, Strauss MM, Hyman SE, Rose Kadal expression. Neuron. 1996 Nov;17(5):875-67	en BR. Response and habituation						
*	Breiter, H.C., and Rosen, B.R. (1999). Functional 877, 523-547.	pagnetic resonance imaging of brain reward circuitry	in the human. N.Y, Acad, Sci.						
•	Stern C.F. Belliveau I.W. Baer L. O'Sullivan R.	, Weisskoff, R.M., Kennedy, D.N., Kendrick, A.D., Da L., Savage, C.R., lenike, M.A., and Rosen, B.R. (199 essive-compulsive disorder . Arch. Oen. Psychiatry 5	36a), Functional magnetic						
•	Brock, J.W., Ng, J.P., and Justice, J.B Jr. (1990). E determined by microdialysis perfusion with NSO101	Effect of chronic cocaine on dopamine synthesis in th 15. Neurosci. Lett. 117, 234-239.	e nucleus accumbens as						
	Buckner, R.L., Petersen SoB., Ojemann, J.C., Miezexplicit and implicit memory retrieval (aSks. I. Neuro	in, F.M, Squire, LR., and Raichle, M.E., (1995). Fundosci. 15, 12-29.	tional anatomical studies of						
	Bushnell MC, Duncan GH, Hofuauer RK, Ha B, Che Proc Natl Acad Sci U, 8 A. 1999 Jul6;96(14):7705-9	en JI, CalTier B. Pain perception: is there a role for p	rimary somatosensory cortex?						
•	Cabanac, M. (1971). Physiological role of pleasure.	. Science 173(2), 1103-1107.							
	Cabib S, Puglisi-Allegra S. Opposite responses ofm J Neurospi. 1994 May;14(5 Pt 2):3333-40.	nesolimbic dopamine system to controllable and unco	ontrollable aversive experiences.						
•	Cadoni, C., Solinas, M., Chiara, G. (2000). Psychos J. Pharmacol. 388(1), 69-76.	stimulant sensitization: differential changes in accum	bal shell and core dopamine. Eu						
•	Cador, M., Robbins, T.W., and Everitt, B.J. (1989). ventral striatum. J. Neurosci. 30, 77-86.	Involvement of the amygdala in stimulus-reward ass	ociations: interaction with the						
	Cahill, L., Haier, R.J., Fallon, J., Alkire, M.T., Tang, elated with long-tenn, free recall of emotional inform	C., Keator, D., Wu, I., and McGaugh, J.L. (1996). Ar nation. Proceedings Nat. Acad. Sci. U.S.A. 93,8016-	nygdala activity at encoding con- 8021.						
	Date Ex	aminer							

Form PTO-1 (Rev. 8-83)	1449	U.S. DE THENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE CITATION (Use several sheets if necessing)	ATTY. DO NO. MGH-004AUS	APPLICATION NO. 09/729,665							
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AUS D	3 2004	NOLOGY 2004	FILING DATE	GROUP							
PETER STATE	- 42	CENTERA	December 4, 2000	2862							
THA	DE	OTHER DOCUMENTS (including Author, Cale, Da	te, Pertinent Pages, Etc.)								
	•	CalTive P. The periaqueductal gray and defensive behavior: functional Dec 20;58(1-2):27-47.	representation and neuronal orga	nization. Behav Brain Res. 1993							
	*	Calder, A.J., Young, A.W., Rowland, D., PelTett, D.I., Hodges, J.R., and amygdala damage: differentially severe impainment of fear. Cognitive N	d Etcoff, N.L. (1996). Facial emoti leuropsychology 13, 699- 745.	on recognition after bilateral							
	*	Carelli, R.M., Ijarnes, S.G., and Crumling, A.J. (Evidence that separate .natural" (water and food) reward. J. Neurosci. 20(11): 4255-4266.;.Ju	Carelli, R.M., Ijames, S.G., and Crumling, A.J. (Evidence that separate neural circuits in the nucleus accumbnes encode cocaine versus .natural" (water and food) reward. J. Neurosci. 20(11): 4255-4266.; June 2000.								
	*	Carr DB, Sesack SR. Projections from the rat prefrontal cottex to the viassociations with mesoaccumbens and mesocortical neurons. J Neuros	entral tegmental area: target spec sci. 2000 May 15;20(10): 3864,73	ificity in the synaptic							
	*	Carrive P. The periaqueductal gray and defensive behavior: functional Dec 20;58( 1-2):27-47.	representation and neuronalorgar	ization. Behav Brain Res. 1993							
	•										
	•	Casey KL, Minoshima S, Berger KL, Koeppe RA, Morrow TJ, Frey KA. Positron emission tomographic analysis of cerebral structures activated specifically by repetitive noxious heat stimuli. J Neurophysiol. 1994 5eb;71(2):802-7									
	•	Casey KL, Minoshima S, MolTOW TI, Koeppe RA. Comparison of human cerebral activation pattern during cutaneous warmth, heat pain, and deep cold pain. J Neurophysiol. 1996 Jul;76(1):571-81.									
		Casey KL. Forebrain mechanisms of nociception and pain: analysis thro	Casey KL. Forebrain mechanisms of nociception and pain: analysis through imaging. Proc Natl Acad Sci U S A. 1999 Jul6;96(14):7668-74.								
	*	Chance, W.T., Foli-Nelson, T., Nelson, J.L., and Pitcher, J.E. (1987). N Brain Research 416, 228-234.	eurotransmitter alterations associ	ated with feeding and satiety.							
	•	Chapman CR, Gavrin J. Suffering: the contributions of persistent pain. L	Lancet. 1999 Jun 26;353(9171):22	233- 7.							
		Chiou, L.C., and Huang, L. Y. (1999). Mechanism underlying increased µ-opioid. J. Physiol. (Land). 518 (Pt 2), 551-559.	neuronal activity in the rat ventrol	ateral periaqueductal grey by a							
	•	Chudler EH. Response properties of neurons in the caudate-putamen a stimulation in anesthetized rats. Brain Res. 1998 Nov 23;8 t 2(1-2):283	nd globus pallidus to noxious and -8.	non-noxious thermal							
	*	Chudler, E.H., Sugiyama, K. Dong, W.K., Nociceptive responses in the of Neurophysiology, Vol. 69, No. 6, June 1993, 1890-1903.	neostriatum and globus pallidus o	of the anesthetized rat, Journal							
	*	Church, R.M. (1984) Properties of the internal clock. In Timing and Tim Academy of Sciences, 566-582.	e Perception. Gibbon, J., Allan, L.	(eds.), New York: New York							
	*	Clarke PB, Franklin KB. Infusions of 6-hydroxydopamine into the nucleu not of morphine in the formalin test. Brain Res. 1992 May 15;580( 1-2):		ic effect of amphetamine but							
	•	Cody, F.W. and Richardson, H.C> (1977) Trigeminal projections to the 41P.	cerebellar cortes in the cat. Proc.	IEEE Physiologici Soc. 1977							
	•	Coghill, R.C., Talbot. J.D Evans, A.C., Meyer, E., Gjedde, A., Bushnell, M.C., and Duncan, G.H. (1994). Distributed processing of pain and vibration by the human brain. J. Neurosci. 14.4095-4108.									
	/	Coghill. R.C Sang. C.N Maisog. J.M., and ladarola, MJ. (1999). Pain intensity processing within the human brain: a bilateral. distrib mechanism. I. Neurophysiol. 82(4). 1934-1943.									
/	•	Cohen SR, Melzack R. The habenula and pain: repeated electrical stimu on fonnalin pain or morphine analgesia. Behav Brain Res. 1993 Apr 30;		esia but lesions have no effect							
Examiner		Date Considered:		· ·							
		*EXAMINER: Initial if reference considered, whether or not citation is in conformance and considered. Include copy of this form with next communication		rough citation if not in							

Form PTO-16 (Rev. 8-83)	149	U.S. DEFARTMENT OF COMMERCE PATENT AND TRADEMARY SPEICE	ATTY, DOCKET NO. MGH-004AUS	APPLICATION NO. 09/729,665						
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A TOEN		OTHER DOCUMENTS (including Author, Title, Da	te, Pertinent Pages, Etc.)							
	•	Cohen, M.S., Kosstyn, S.M., Breiter, H.C., DiGirolamo, GJ., Thompson, Belliveau, J. W.(1996). Changes In contical activity during mental rotati	W .L., Anderson, A.K., Bookheim	er, S. Y., Røsen, B.R., nal MRI. Brain 119, 89-100.						
	•	Commons, K.G., van Bockstaele, E.I., and Pfaff, D. W. (1999). Frequent at postsynaptic sites in periaqueductal gray neurons. J. Comp. Neurol.		IMDA-type glutamate receptors						
	•	Corrigal, W.A and Vaccarino, F.J. (1988). Anatagonist treatment in the nucleus accumbens or periaqueductal grey affects heroin self-administration. Pharm. Bioch. and Behavioral. 30, 443–450.								
	*	Craig AD, Chen K, Bandy D, Reiman EM. Thermosensory activation of	insular cortex. Nat Neurosci. 2000	Feb;3(2): 184-90.						
	*	Craig, A.D., Bushnell, M.C., Zhang, E.T., and Blomqvist, A. (1994). Ath Nature 372, 770-773.	alamic nucleus specific for pain a	nd temperature sensation.						
	* .	Craig, A.D., Reiman, E.M., Evans, A., and Bushnell, M.C. (1996). Funct	ional imaging of an illusion of pair	n. Nature 384, 258-260.						
	•	Critchley HD, Elliott R, Mathias CJ, Dolan RJ. Neural activity relating to generation and representation of galvanic skin conductance responses: A functional magnetic resonance irraging study. J Hoorosci. 2000 Apr 15;20(8):3033-40.								
	*	D'Esposito, M., Detre, J.A., Alsop, D.C., Shin, R.K., Atlas, Sand Gross of working memory. Nature 378(6554), 279-281.	sman, M. (1995). The neural basis	of the central executive system						
	*	Daghero, A.M., Bradley, E.L. Jr, and Kissin, I. (1987). Midazolam antag. 66(10), 944-947.	onizes the analgesic effect of mor	phine in rats. Anesth. Analg.						
	*	Dale, A.M. (1999). Optimal experimental design for event-related fMRI.	Human Brain Mapp. 8(2-3), 109-1	114.						
	*	Dalton JA, Feuerstein M, Carlson J, Reglunan K. Biobehavioral pain pro	ofile: development and psychomet	tric properties.Pain. 1994 Apr;						
	•	Damasio, A.R., Individuals with sociopathic behavior caued by frontal di Brain Research, 41 (1990), 81-94.	amage fail to respond autonomica	ally to social stimuli, Behavioural						
	*	David, A., Blamire, A., & Breiter, H.C. (1994). Functional magnetic resor	nance imaging, Brit, J. Psychiatry	164, 2-7,						
	*	Davidson, R.J., & Sutton, S.K. (1995). Affective neuroscience: The eme								
	*	Davidson, R.J. (1998). Affective style and affective disorders: Perspecti 330.	ves from affective neuroscience. (	Cognition and Emotion 12, 307-						
	•	Davidson, R.J., and Fox, N.A. (1982). Asymmetrical brain activity discrir infants. Science 218, 1235-1236.	ninates between positive and neg	ative affective stimuli in human						
	*	Davidson, R.J., and Fox, N.A. (1988). Frontal brain asymmetrical predic Psychology, Vol. 98, No. 2, 127-131.	ts infants' response to maternal s	eparation. Journal of Abnormal						
	*	Davidson, R.J., Ekman, P., Saron, C.D., Senulis, J.A., and Friesen, W.V. Emotional expression and brain physiology I. J. Personality and Social F		nd cerebral asymmetry:						
	*	Davis KD, Kiss ZH, Tasker RR, Dostrovsky JO. Thalamic stimulation-ev (movement disorder) patients. J Neurophysiol. 1996 Mar;75(3): 1026-37		alients and in nonpain						
	*	Davis KD, Kwan CL, Crawley AP, Mikulis DJ. Event-related fMRI of pain 14;9(13):3019-23.	entering a new era in imaging p	ain. Neuroreport. 1998 Sep						
		Date Examiner								

Form PTU-1449 (Rev. 8-83)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMA PROFICE

ATTY. DOCKET NO. MGH-004AUS

APPLICATION NO. 09/729,665

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Hans C. Breiter et al.

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE®				
		OTHER DOCUMENTS (A	including Autho	or, Title, Date, Pertinent Pages	, Etc.)						
	*	Davis KD, Kwan CL, Crawley AP, Mikulis DI. F and tactile stimuli. J Neurophysiol. 1998 Sep;8			al activations	s evoked by cuta	neous heat, cold,				
	*	Davis, K.D., Kiss, Z.H., Luo, L., Tasker, R.R., Microstimulation. Nature. 391(6665), 385-387.		and Dostrovsky, J.O. (1998b	). Phantom	sensations gene	rated by thalamic				
	*	Decavel, C., and Van den Pol, A.N. (1990). G	ABA: a domina	ant neurotransmitter in the h	ypothalamus	i. J. Comp. Neui	ol. 302, 1019-1037.				
	*	Derbyshire SW, Jones AK, Cerebral responses to a continual tonic pain stimulus measured using positron emission tomoraphy. Pain 76. 1998 pp. 127-135									
	Derbyshire SW, Jones AK, Oyulai F, Clark S, Townsend D, Firestone LL. Pain processing during three levels of noxious stimulation produces differential patterns of central activity. Pain. 1997 Dec;73(3):431-45.  Devinsky 0, Morrell MJ, Vogt BA. Contributions of anterior cingulate cortex to behaviour. Brain. 1995 Feb118 ( Pt 1):279-306.  DiChiara, G. and Imperato, A. ( 1988). Drugs abused by humans preferentially increase synaptic dopamine concentrations in the mesolimbic system of freely moving rats. Proceedings of the National Academy of Sciences 85, 5274-5278.										
	*	Dill. R.E., and Costa. E. (1977). Behavioural dissociation of the enternalinergic systems of nucleus accumbens and nucleus caudatus. Neuraphannacology 16(5):323-326.									
	*	Drevets, W.C., Videen, T.O., Price, J.L., Preskom, S.H., Camichael, T., & Raichle, M.E. (1992). A functional anatomical study of unipolar depression. J. Neurosci. 12, 3628-3641.									
	*	Edmjnster, W.B., Talvage, T.M., Ledden, P.I., acquisitions. Hum. Brain Map 7(2), 89- 97.	Edminster, W.B., Talvage, T.M., Ledden, P.I., and Weisskoff, R.M. (1999). Improved auditory cortex imaging using clustered volume acquisitions. Hum. Brain Map 7(2), 89- 97.								
	*	Ekman, P., Sorenson, E.R., and Friesen, W.	/ (1969). Pan	-cultural elements in facial o	lisplays of er	motion. Science	164, 86-88.				
	*	Etcoff, N.L. (1984). Selective attention to facial	identity and fa	acial emotion. Neuropsychol	ògia 22(3), 2	281-295.					
-	*	Everitt, B.J. (1997). Craving cocaine cues: cog 2.	nitive neurosci	ence meets drug addiction	research. Tr	ends in Cognitiv	e Sciences 1(1), 1-				
	*	Everitt, B.J., Moms, K.A., O'Brien, A., and Rob preference: further evidence of limbic-striatal in									
	*	Fields HL, Heinricher MM, Mason P. Neurotran	smitters in no	ciceptive modulatory circuits	. Arli1u Rev	Neurosci. 1991	14:219-45.				
	*	Fields HL, Malick A, Burstein R. Dorsal horn pr 1995 Oct;74(4):1742-59.	ojection target	s of ON and OFF cells in th	e rostral ven	tromedial medu	la. JNeurophysiol.				
	*	Fiez. J.A. Raife, E.A., Balota, D.A., Schwarz, J the short-tenn maintenance of verbal informati			96). A posit	ron emission tor	nography study of				
	•	Fischl, B., Sereno, M.I., Tootell, R.B., and Dale cortical surface. Hum Brain Mapp. 8(4), 272-28		High-resolution intersubject	averaging a	ind a coordinate	system for the				
	•/	Franklin, KB. Analgesia and .Abuse Potential: a 59 (4):993-1002.	an accidental a	essociation or a common su	bstrate? Pha	rmacol Biochen	n Behav. 1998 Apr;				
	•	Franklin, KB. Analgesia and the neural substrate	te of reward. N	leurosci Biobehav Rev. 198	9 Sununer-F	fall; 13(2-3): 149	-54				
		Date	Examiner								

								Page 7 of i	
Form PTO-14 (Rev. 8-81)	49	U.S. DEPARTMENT OF C PATENT AND TRADEMA INFORMATION DISCLOSURE CITATION	OMMERCE RESPECE	·/·	ATTY. DOCKET MGH-004A		APPLICAT 09/729	· · · - ·	
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	*	OTHER DOCUMENTS				<del></del>	Division and a se	and the d	
		Friston KJ, Holmes AP, Poline JB, Grasby PJ Neuroimage. 1995 Mar;2(1):45-53.	, Williams SC, I	Frackowia	KRS, Turner R. A	narysis of tM	KI time-series re	evisited.	
	*	Friston, K.J., Holmes, A.P., Worskey, K.I. (199	99). How many	subjects c	onstitute a study?	Neurolmage	9 10, 1-5.		
	*	Gaffan, D., and Harrison, S. (Aug.1987). Amy monkeys. J. Neuroscl. 7, 2285-2292.	gdalectomy and	d disconne	ection in visual lea	rning for auc	ditory secondary	reinforcement by	
	*	Gaffan, E.A., Gaffan, D., and Harrison, S. (1988). Disconnection of the amygdala from visual association cortex impairs visual association learning in monkeys. J. Neurosci. 8, 3144-3150.						airs visual reward-	
	*	Gallagher, M., & Chiba, A.A. (1996). The amygdala and emotion. Current Opin. Neurobiology 6, 221-227.					227.		
	*	Gallagher, M., & Holland, PC (Dec. 1994). The Sci. Vol. 91, pp 11771-11776.	e amygdala coi	mplex: mu	Itiple roles in asso	ciative learn	ing an attention.	Proc. Natl. Acad.	
	*	Gao DM, Jeaugey L, Pollak P, Benabid AL. In substantia nigra, pars compacta in the rat and	itensity-depend I their modifical	ent nocice	ptive responses f	rom presume ts. Brain Re:	ed dopaminergio s. 1990 Oct 8;52	neurons of the 9(1-2):315-9.	
	*	Gear, R.W., Aley, K.O., and Levine, J.D. (199 7175-7181.	9). Pain-induce	danalges	ia mediated by mo	esolimbic rev	ward circuits. Ne	urosci. 19(16),	
	*	Gebhart, G.F., Sandkuhler, J., Thalhammer, J electrical stimulation and morphine microinjec	l.a., and Simme	rmann M. I sites in m	(1984), Inhibition hidbrain of the cat	in spinal cor J Neurophy	d of nociceptive siol. 51(1), 75-8	information by 9.	
	*	George, M.S., Ketter, T.A., Parekh, P.I., Horov happiness in healthy women. Amer. J. Psychia	itz, B., Hersco atry 152.341-35	vitch. P., a 51.	and Post, R.M. (19	95). Brain a	ctivity during tra	nsient sadness and	
	*	Gibbon, I., R.M. Church, S. Fairhurst, and Kad Rev. 95, 102-114.	cetnik, A. (1988	). Scalar e	expectancy theory	and choice t	between delayed	f rewards. Psychol.	
	*	Glickman SE, Schiff BB. A biological theory of	reinforcement	. Psychol i	Rev. 1967 Mar;74	(2):81-109.			
	٠	Golay X, Kollias S, Stoll Q, Meier D, Valavanis Reson Med. 1998 Aug 40(2):249-60.	s A, Boesiger P	. A new co	orrelation-based fu	ızzy logic clu	stering algorithr	n for fMRI. Magn	
	*	Gollub, R.L., Breiter, H.C., Kantor, H., Kennedy, D., Gastfriend, D., Mathew, R.T., Makris, N., Guimaraes, A., Riorden, J., Campbel Foley, M., Hyman, S.E., Rosen, B., and Weisskoff, R. (1998). Cocaine decreases cortical cerebral blood flow but does not obscure regional activation in functional magnetic resonance imaging in human subjects. J. Cereb. Blood Flow Metab. 18(7), 724-734.						s not obscure	
	•	Gracety RH, Kwilosz DM. The Descriptor Diffe Dec;25(3):279-88.	erential Scale: a	pplying ps	sychophysical prin	ciples to clin	ical pain assess	ment. Pain. 1988	
	•	guimaraes, A.R., Melcher, J.R., Talavage, T.M. (1998). Imaging subcortical auditory activity in	M., Baker, J.R., humans. Hum	Ledden, F Brain Mar	P., Rosen, B.R., K op. 6(1):33-41.	iang, N.Y., F	ullerton, B.C., a	nd Weisskoff, R.M.	
	*	Greden, J.F., Genero, N., Price, L., Feinberg, March 1986, pp 269-274.	M., Levine, S.,	Facial Ele	ectromyography in	Depression	ı, Arch. Gen. Psy	ychiatry, Vol. 43,	
	•	Gur, R.C., Erwin, R.J., Gur, R.E., Zwil, A.S., Ho depression, Psychiatry research, 42, 241-251,		aemer, H.	C., Facial emotion	n discriminat	ion: II. Behavior	al findings in	

Gutstein, H.B., Mansour, A., Watson, Akil, H., and Fields, H.L. (June 1998). Mu and kappa opioid receptors in periaqueductal gray and rostral ventromedial medulla. Neuroreport. 9(8). 1777-1781.

Examiner

Date

Form PTO. (Rev. 8 8)

# U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEPARTM OFFICE

ATTY. DOCKET NO. MGH-004AUS

APPLICATION NO. 09/729,665

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•		U.S. 1	PATENT DO	CUMENTS						
EXAMINER INITIAL		DOCUMENT NUMBER OTHER DOCUMENTS (	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF . APPROPRIATE*			
	*	Gysling, K., Wang, R.Y. (1983). Morphine-inde	<del></del>	<u> </u>		ain Res 277(1)	119-21			
		Haber SN, Fudge JL. The primate substantia					/			
	•	Hakan, R.L., and Henriksen, (Oct. 1989). Opia dopamine mechanisms. Journal of Neurosci. 9	ate influences o	n nucleus accumbens ne		<del> / .</del>				
	<ul> <li>Hakan, R.L., and Henriksen, S.I. (1987). Systematic opiate administration has heterogeneous effects on activity recorded from nucleurons in vivo. Neuroscience Lett. 83, 307-312.</li> <li>Hamann, S.B., Stefanacci, L., Squire, L.R., Adolphs, R., Tranel, D., Damasio, H., &amp; Damasio, A. (1996). Recognizing facial emotion Nature 379, 497.</li> <li>Hatfield, T., Ran, IS., Conley, M., Gallagher, M., &amp; Holland, P. (Aug. 15, 1996). Meurotoxic lesions of basolateral, but not central, amygdala interfere with pavlovian second-order conditioning and reinforcer devaluation effects. J. Neurosci. 16 (16),5256-5265.</li> </ul>									
,	Haxby, J.V., Horwitz, B., Ungerleider, L.G., Maisog, J.M., Pietrini, P., and Grady, C.L. (Nov. 1994). The functional organization of human extratriate cortex: a PET-rCBF study of selective attention to false and locations. J. Neurosci. 14 (11), 6336-6353.									
	Heffner, T., Hartman, J., and Seidan, L. (1980). Feeding locreases dopamine metabolism in the rat brain. Science 208, 1168-11									
<del></del>	Heilman, K.M., Bowers, D., Speedie, L., & Costett, HB. (April 1983). The comprehension of emotional and nonemotional pros Neurobiology 33(2), 241.									
	Heimar, L., Harlan, R.E., Alheid, G.F., Garcia, M.M., and DeOlmos J. (1997). Substantia innominata: a notion which impedes anatomical correlations in neuropsychiatric disorders. Neuroscience 76(4),957-1006.  Heimer, L., Alheid, G.F., de Olmos, J.S., Groenewegen, H.J., Haber, S.N., Harlan, R.E., Zahm, D.S. (Summer1997). The accubeyond the core-shell dichotomy. J. Neuropsychiatry Clin. Neurosci. 9(3), 354-81.									
	*	Heinricher MM, Cheng ZF, Fields ML. Evidenc 1987 Jan;7(1):271-8.	e for two classe	s of nociceptive modula	ting neurons in	the periaquedu	dal gray. J Neuroso			
	*	Henriques, J.B., & Davidson, R.J. (1991). Left	frontal hypoacti	vation in depression. J.	Abnorm, Psych	. 100(4), 535-54	5.			
	*	Henriques, J.B., & Davidson, R.J. (1990). Regi control subjects. J Abnorm. Psych. 99(1), 22-3		trical asymmetries discri	minate betweer	n previously dep	ressed and healthy			
	*	Hemandez, L., and Hoebel, B. (1988). Food re measured by microdialysis. Life Sci. 42, 1705-		ine increase extracellula	r dopamine in t	he nucleus accu	mbens as			
	*	Hollegman, J.R., and Schultz, W. (August 1998 Nat Neurosci. 1(4), 304-309.	). Dopamine ne	eurons report an error in	the temporal p	rediction of rewa	ord during learning.			
	•	Honey CR, Stoessl AJ, Tsui JK, Schulzer M, C 91 (2): 198-201.	alne DB. Unilat	eral pallidotomy for redu	ction of parkins	sonian pain. J No	eurosurg. 1999 Aug			
	•	Hutchison WD, Davls KD, Lozano AM, Tasker 1999 May;2(5):403-5.	RR, Dostrovsky	JO. Pain-related neuro	ns in the huma	n cingulate cone	x. Nat Neurosci.			
	•	ladarola MI, Berman KF, Zeffiro TA, Byas-Smit pain and allodynia assessed with PET. Brain. 1			J. Neural activa	ation during acut	e capsaicin-evoked			
	٠	Ingvar M. Pain and functional imaging. Philos T	rans R Soc Lo	nd B Bioi Sci. 1999 Jul 2	9;354: 1347-58	3.				
		Date	Examiner							

Form PTO-14 (Rev. 8 83)	49 P &	U.S. DELECTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	MGH-004	NO.	APPLICA 09/729	TION NO. ,665			
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		U.S. PATENT DOCUM	ENTS						
EXAMINER INITIAL		DOCUMENT NUMBER DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE			
	,	OTHER DOCUMENTS (including Author, Title,	Date, Pertinent Page	s, Etc.)					
	•	Irwin, W., Davidson, R.J., Lowe, M, Mock, B.J., Sorenson, J.A., & Tu echo-planar functional magnetic resonanace imaging. NeuroReport	rski, P.A. (July 199 7(11), 1765-1769.	6). Human am	nygdala activatio	on detected with			
	•	Iversen, s. D., and Mishkin, M. (1970). Preservative interference in m Exp. Brain Res. 11, 376-386.	nonkeys following s	elective lesion	ns of the inferior	prefrontal convexity			
	*	Jaeger, J., Borod, J.C., & Peselow, E. (1986) Facial expression of po Affective Dis. 11,43-50.	sitive and negative	e emotions in p	patients with un	ipolar depression. J			
	٠	Jensen TS. Opioids in the brain: supraspinal mechanisms in pain con	ntrol. Acta Anaesth	esiol Scand. 1	997 Jan;41(1 F	ર્ય 2): 123 <b>-3</b> 2.			
	*	Johnson, S. W., and North, R.A. (Feb. 1992). Opioids excite dopamine neurons by hyperalarization of local interneurans. J. Neurosci. 12(2),483-488.							
	*	Jones AK, Brown WD, Friston KJ, Qi L y, Frackowiak RS. Cortical and subcortical localization of response to pain in man using positro emission tomography. Proc R Soc Lond B Biol Sci. 1991, Apr 22;244 1309):59-44.							
-	*	Jones, A.K., Qi, L. Y., Fujirawa, T., Luthra, S.K., Ashbumer, I., Propried, P., Cunningham, V.J., Itoh, M., Fukuda, H., and Jones, T. (1991 a or b). In vivo distribution of opioid receptors in man in relation to the cortical projections of the medial and lateral pain systems measured with positron emission tomography. Neurosci. Lett. (126/1), 25-28							
	*	Jones, B., and Mishkin, M. (1972). Limbic lesion and the problem of	stimulus-reinforcen	nent association	on. Expl. Neuro	I. 36, 362-377.			
	•	Jonides, J., Smith, E.E., Koeppe, R.A., A wh, E., Minoshima, S., & Mrevealed by PET. Nature 363, 623-625.	lintun, M.A. (June	17, 1993). Spa	itial working me	mory in humans as			
	*	Kalivas PW, Nakamura M. Neural systems for Behavioral activation a							
	•	Kalyuzhny AE, Arvidsson U, Wu W, Wessendorf MW. (Oct. 15, 1996 antinociceptive circuits: studies using immunocytochemistry and retro	grade tract-tracing	. J Neurosci.	16(20), 6490-50	)3			
-	*	Kang W, Wilson SP, Wilson MA. Changés in nociceptive and anxioly overexpression in rat amygdala are nafoxone-reversible and translen	t. Ann NY Acad Sc	i. 1999 Jun 29	;877:751-5.				
	*	Kanwisher, N., McDermott, 1., & Chun, M.M. (June 1997). The fusifor face perception. 1. Neurosci. 17 (11), 4302-4311.							
	*	Kapur, N., Friston, K.J., Young, A., Frith, C.D., & Frackowiak, R.S.J. (1 for faces: A PET study. Cordex 31, 99-108.	<u>·</u>						
	*	Kern MK, Birn RM, Jaragen S, Jesmanowicz A, Cox R W, Hyde JS, s response to esophageal mucosal acid exposure and distention. Gastrone and distention of the control of the	roenterology. 1998	Dec;115(6):1	353-62.				
	*	Killcross, S., Robbins, T.W., and Everitt, B.J. (July 24, 1997). Different within amygdala. Mature 388, 377-380.				·			
	*	Kiyatkin, E., and Gratton, A. (1994). Electrochemical monitoring of e for food Brain Res. 652, 225-234.							
	*	Konishi S/Nakajima K, Uchida I, Kameyama M, Nakahara K, Sekihar during pognitive set shifting. Nat Neurosci. 1998 May; 1(1):80-4.			ation of inferior	prefrontal cortex			
	٠	Koob G.F. Sanna PP, Bloom FE. Neuroscience of addiction. Neuron.			=	·			
- 1		Koob, G.F. and Bloom, F.F. (Nov. 1988). Cellular and molecular med	hanisms of drug d	enendence S	cience 242 719	5- 723			

Kosslyn, S:M., Pascual-Leone, A., Felician. O., Camposano, S., Keenan, J.P., Thompson, W. L., Ganis, G., Sukel, K.E., and Alpert. NoM. (April 1999). The role of area 17 in visual imagery: convergent evidence from PET and rTMS. Science 284(5411).167-170.

Krout KE, Jansen AS, Loewy AD. Periaqueducial gray matter projection to the parabrachial nucleus in rat. J Comp Neurol. 1998 Nov 30;401(4):437-54

Kreek, M.J., and Koob, G.F. (1998). Drug dependence: stress and dysregulation of brain reward pathways. Drug and Alcohol Dependence 51,23-47.

Examiner

Date

Form PTO-14 (Rev. 8-83)		U.S. DEPARTMENT OF CO PATENT AND TRADEMAN	RK OFFICE		MGH-004		1	APPLICATION NO. 09/729,665		
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INITIAL		OCUMENT NUMBER OTHER DOCUMENTS (	DATE	r. Title. De			30BCLA33	ATROPALATE		
	*	Kwong, K.K., Belliveau, J. W , Chester. D.A., Turner, R., Cheng, H.M., Brady, T J ., and Ros sensory stimulation. Proc. Natl. Acad. Sci. 89,	Goldberg, I.B sen, B.R. Dyna	Weiskoff, mic magn	, R.M., Poncelet, E etic resonance im	.P., Kenned	y. D.N., Hoppel. nan brain activity	B.B., Cønen, M.S., during primary		
	*	Lai SH, Fang M. A novel local PCA-based me	thod for detecti	ing actival	tion signals in fMR	I. Magn Res	on Imaging, 199	9 Jul;17(6):827-36.		
	*	Lane, R.D., Relman. E.M Ahern, G.L Schwar and disgust. Amer. J. Psychiatry 154, 926-933	<b>3.</b>					appiness. sadness,		
	*	LeDoux, J.E. (1993). Emotional memory: In se				_				
	*	Lee RS, Koob GF, Henriksen SJ. Electrophysi behavior in the awake, unrestrained rat. Brain	iological respon	nses of nu v 20:799/2	cleus accumbens 2):317-22	neurons to	novelty stimuli a	nd exploratory		
	*	Lenz, F.A., Gracely, R.H., Romanoski, A.1., H somatosensory thalamus can reproduce both 910-913.	ope, E.J., Row	land, L.H.	and Dougherty, F	P.M. (1995). eviously exp	Stimulation in the erienced pain. N	e human Vature Med. 1 (9),		
	*	Leonard, C.M., Rolls, E.T., Wilson, F.A., & Bay	ylis, G.C. (1985	5). Neuron	is in the amygdala	of the monk	ey with respons	es selective for		
	*	faces. Behav. Brain Res. 15, 159-176.  London, E.D., Cascella, N.G., Wong, D.F., Ph	illips, R.L., Dan	na)s, R.F	., Links, J.M., Hen	ning, R., Gra	yson, R., Jaffe,	J.H., and Wagner,		
	*	H.N. (June 1990). Cocaine-induced reduction of glucose utilization in human brain. Arch. Gen. Psychiatry 47, 567-574.  Lynd-Balta, B., and Haber, S.N. (1994). The organization of midbrain projections to the ventral striatium in the primate. Neuroscience 59								
	<u> </u>	(3) 625-640.			` 7					
	*	Maldonado, R., Salardi, A., Valverde, O., Samad, T.A., Roques B.P. Borrelli, E. (Aug. 1997) Absence of opiate rewarding effects lacking dopamine D2 receptors. Nature 388 (6642), 586-589.  Manning BH, Mayer DJ. The central nucleus of the amygdala contributes to the production of morphine antinociception in the rat								
	*	test   Neurosci 1995 Dec:15(12):8199-213		\ /						
	*	Manning BH. A lateralized deficit in morphine 15;18 (22):9453-70.	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	/						
	*	Mansour, A., Khachaturian, H., Lewis, M.E., A kappa opioid receptors in the forebrain and m	idbrein Weur	osci. 7(8).	2445-2464.					
	*	Martin G., Nie Z, Siggins, G.R. (1997). p-opio neurons. J Neurosci. 17, 11-22.	lo receptors me	odulate N	MDA receptor- me	diated respo	onses in nucleus	accumbens		
	*	Martin WJ, Coffin PO, Attias E, Balinsky M, Ts by intracerebral microinjections. Brain Res. 19	ou K, Walker I 99 Mar 20:822	M. Anator	mical basis for car 7-42.	nabinoid- in	duced antinocic	eption as revealed		
	*	Martinot, J.L., Hardy, P., Feline, A., Huret. J.D. hypometabolism in the depressed state: A cor	., Mazoyer, B.,	Attar-Lev	y, D., Pappata, S.,	& Syrota, A 317.	. (Oct. 1990). Le	ft prefrontal glucose		
	*	Mathews, R.T., and German, D.C. (1984). El	ectrophysiologi	ical evide	nce for excitation	of rat ventral	tegmental area	dopamine neurons		
	*	by morphine. Neuroscience 11 (3), 617 -625.  Matthes, H. W., Maldonado, R., Simonin, F., V. Hanoune, J., Roques, Β.Ρ., and Kieffer BL. (1) lacking the μ-opioid-receptor gene. Nature.38:	996). Loss of m	norphine-i	itchen, I., Befort, I nduced analgesia	(., Dierich, A , reward effe	., Le Meur, M., l ct and withdraw	Dolle, P., Tzavara, E. al symptoms in mice		
	*	Maximilian, V.A., Prohovník, Y., and Risberg, I.	(1980). Cereb	ral hemod	lynamic response	to mental ac	tivation in norm	o-and Hypercapnia.		
	*	Stroke II (4), 342-347.  McCarthy, G., Blamire, &M., Puce, A., Nobre, magnetic resonance imaging of human prefroi	A., Bloch, G., I	Hyder, F., vation dur	Goldman-Rakic, I	P., and Shuling memory	man, R.G. (1994 lask. Proc Natl A	l). Functional Acad Sci USA 91,		
	*	8690-8694.  McCullough, L., Cousins, M., and Salamone,	J. (1993). The r	role of nuc	cleus accumbens	dopamine in	responding on a	a continuous		
		reinforcement operant schedule: a neurochemicaJ and behavioral study. Pharmacol. Blochem. Behav. 46, 581-586.								
	*	McLellan, A.T., Luborsky, L., and Woody, G.E.						_		
	*	addiction severity index. Journal of Nervous at	nd Mental Diso	rders 168	, 27-33.					
	*	Mellers, B.A., Schwartz, A., Ho, K., and Ritov, Psychological Sciences 8(6), 423-429.								
	*	Mesulam, MM. (1990). Large-scale neurocog Neurology 28, 597-613.								
	*/	Michel, M.E., et al., Binding of a New Oplate A 7(4): 175-177	ntagonist, Nalr	nefene, to	Rat Brain Memb	ranes, Meth	and Find Exptl (	Clin Pharmacol 1985;		
		Date	Examiner							

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ATTY, DOCKET NO. MGH-004AUS APPLICATION NO. 09/729,665

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APPLICANT Hans C. Breiter et al.

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**December 4, 2000** 

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### U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMEN	IT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE					
				S (including Autho	r, Title, Date, Pertinent Pag	es, E(c.)	<u> </u>						
	*				dictability for reward respo		e dopamine neu	rons. J.					
		Neurophysiol 72(2)	1024-1027										
<u> </u>	*	Nature 379 449-51			n of midbrain dopamine n		4						
	*	Mitchell JM, Basbaum Al, Fields HL. A locus and mechanism of action for associative morphine tolerance. Nat Neurosci. 2000											
	_	Jan:3(1):47-53											
	*	Morgan MJ, Franklin KB. 6-Hydroxydopamine lesions of the ventral tegmentum abolish D-amphetamine and morphine analgesia in the formalin test but not in the tail flick 'est. Brain Res. 1990 Jun 11;519(1-2):144-9.											
	*	Morris, J.S., Frith, C.D., Perrett, D.I., Rowland, D., Young, A.W., Calder, A.J., & Dolan, R.J. (1996). A differential neural response in the											
	*	Mouton LJ, VanderHorst VG, Holstege G. Large segmental differences in the spinal projections to the periaqueductal gray in the cat.											
		Neurosci Lett. 1997 Nov 28;238(1-2): 1-4.  Ngan SC, Hu X. Analysis of functional magnetic resonance imaging data using self-organizing mapping with spatial connectivity. Magn											
	*	Ngan SC, Hu X. Anal	ysis of functional mag	netic resonance i	maging data using self-org	janizing mapp	ing with spatial (	connectivity.Magn					
		Reson Med. 1999 Ma	iy;41(5):939-46.	H (1978) Donan	ninemic neurans: effect of	acute and chr	onic morphine a	dministration on					
	*	Nowycky, M.C., Waiters, J.R., and Roth, R.H. (1978). Dopaminergic neurans: effect of acute and chronic morphine administration on single cell activity and transmitter metabolism. J. Neural Trans. 42, 99-116.											
	*	o'Donnell P, Grace AA. Dopaminergic reduction of excitability in nucleus accumbens neurons recorded in vitro.											
	"	Mouroneychonhamar	cology 1996 Jul-15/1)	·87-97									
	*	Ogawa, S., Lee, T., Nayak, A., and Glynn, P. (1990), Oxygenation-sensitive contrast in magnetic resonance image of rodent brain at high											
		magnetic fields. Magr	n Reson Med. 14, 68-	78.	O North U and House	-ii K (4002)	Intrincia cional	channes					
	*	Ogawa, S., Tank, D. \	W., Menon, R., Ellerm	ann, J.M., Kim, S	.G., Merkle, H., and Ugur	oli., N. (1992) art SciUSA (	. Intrinsic signal 39 5951-5955.	Citaliges					
	<del> </del>	accompanying sensory stimulation: functional brain mapping upon MRI. Proc. Natl. Acad. Sci. USA 89, 5951-5955.  Oldfield, R.C. (1971). The assessment and analysis of handed less: the Edinburgh inventory. Neuropsychologia 9, 97-113.											
	*			, ,	<i>)</i>								
	*	Orzi, F., Passarelli, F.	., La Riccia, M., Di Gre	ezia, R., Pontieri,	P.E. (1996). Intravenous r	norphine incre	ases glucose ut	ilization in the shel					
	L	of the rat nucleus acc	umbens, Eur. J. Phan	macol. 302(143)/	49-51.	phorio Amor	I Develiator 15	0.713,719					
	*	ĺ		( ) /	relates of self-induced dys								
	*	342-345		X /	neural correlates of the ve			nemory. Nature 362					
	*	Pay S, Barasi S. A stu	-		ubstantia nigra neurones.								
	*	Peckys, D., and Land	wehrmeyer, a.B. (199	9). Expression of	mu, kappa, and delta opio	oid receptor m	essenger RNA i	n the human CNS:					
	l .	D in city hybridization	study Neuroscience/	วิส(4) 1093-1135									
	*	Peoples, L.L., and We	est, M.O. (1996). Pha	sic firing of single	neurons in the rat nucleus	s accumbens	correlated with the	ne timing of					
	L	intravenous cocaine s	self-administration. J.	Neurosci. 16(10),	3439-3473. 34). Destruction of dopami	ne in the nucli	eus accumbens	selectively					
	*	attenuates consine hi	ut not heroin/self-admi	inistration in rats.	Psychopharmacology (Be	rin) 84(2), 16	/ <b>-</b> 1/3.						
	*	Petrides, M., Alivisato	s. B., Meyer, E., and I	Evans, A.C. (1993	3). Functional activation of	the human fro	ontal cortex duri	ng the performance					
	*	of verbal working mer	mory tasks. Proc. Natl	1977). Sensory a	ffect and motivation. Ann.	NY Acad. Sci	290, 18-34.						
	•		/										
	*	Phillips, A., Atkinson,	J., Blackburn, J., and	Blaha, C. (1993)	Increased extracellular d	opamine in the	e nucleus accun 397 303	ibens of the rat					
		elicited by a condition	al stimulus for food: a	That over A	l study. Can. J. Physiol. P Turtia, A., Mikkola, J.A., A	htee   /1990	3) Involvement	of opinid u1-					
•	*	recentors in enigid-inc	duced acceleration of	striatal and limbid	: dopaminergic transmissi	on. Pharmaco	I. Biochem. Ben	av. 63(2), 245-52.					
	*	Porring 1 J. Crane A	A.M., and Goldman-Ra	akic. P.S. (1981).	Direct and indirect pathwa	sys from the a	mygdala to the f	rontal lobe in rhest					
	▼	monkeys ./ Comp. No	eurol. 198. 121-136.										
	*	Price DD, Bush FM, L	ong S, Harkins SW. A	comparison of p	ain measurement charact	eristics of med	chanical visual a	nalogue and simpl					
		numerical rating scale	s. Pain. 1994 Feb;56	(2):217 -26.	TOO STORE OF THE S	· · · · · · · · · · · · · · · · · · ·	Samuel and and a f	ana lattandiana					
	*	and textures: A function	onal magnetic resonal	nce imaaina stud	1996). Differential sensitivy. J. Neurosci. 16, 5205-5	215.							
· · · · · ·	* /	Puce, A., Allison, T., C	Gore, J.C., & McCarth iology, Vol. 74 (3), 119	y, G. (1995). Fac 92-1199.	e-sensitive regions in hum	an extrastriate							
	*	Radhakishun, F., van	Rec. I., and Westerin	k, B. (1988). Sch	eduled eating increases d eurosci Lett 85, 351-356.	opamine relea	se in the nucleu	s accumbens of					
		Date		Examiner									

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#### U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

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			. PATENT DOC	'/ a.	rs			
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	N	AME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE*
		OTHER DOCUMENTS						
	*	Rainville, P., Duncan, G.H., Price, D.D., Cal somatosensory cortex. Science 277 (5328),	968-971.					
<del></del>	T.	Desig Filho AA Londero PG Achaval M Fr	unctional activities of	f the amv	rdala: an oven	view J Psychi	iatry Neurosci 2	000 Jan 25(X) 14-

Rasia-Filho AA, Londero RG, Achaval M. Functional activities of the amygdala: an overview. J Psychiatry Neurosci. 2000 Jan; 2 23. Reese, T. G., Davis, T. L., and Weisskoff, R.M. (1995). Automated shimming at 1.5T using echo planar image frequency maps. J. Magn. Reson. Imaging 5, 739-745. Reiman, E.M., Lane, R.D., Ahern, G.L., Schwartz, G.E., Davidson, R.J., Friston, K.J., Yun, L.-S., & Chen, K. (1997). Neuroanatomical \* correlates of externally and internally generated human emotion. Amer. J. Psychiatry 154, 918-925 Richardson, N., and Gratton, A. (1996). Behavior-relevant changes in nucleus accumbens dopamine transmission elicited by food reinforcement: an electrochemical study in rat. J. Neurosci. 16, 8160-8169. Robbins, T.W., and Everitt, BJ. (1996). Neurobehavioral mechanisms of reward and motivation. Currnt Opinion in Neurobiology 6, 228-236. Roberts, D.C., Koob, G.F., Klonoff, P., and Fibiger, H.C. (1980). Extinction and recovery of cocaine self-administration following 6-\* hydroxydopamine lesions of the nucleus accumbens. Pharmacol. Biochem. Behav. 12(5), 781-787 Robinson, T.E., & K.C. BelTidge, 1993. The neural basis of drug craving; an incentive- sensitization theory of addiction. Brain Research Rev. 18, 247-291. Rogers RD, Owen AM, Middleton HC, Williams EJ, Pickard JO, Sahakian BJ, Robbins, TW. Choosing between small, likely rewards and large, unlikely rewards activates inferior and orbital prefrontal cortex. J Neurosci. 1999 Oct 15; 19(20):9029-38. Rompre, P.-P., and Shizgal, P. (1986). Electrophysiological characteristics of neurons in forebrain regions implicated in self-stimulation of the medial forebrain bundle in the rat. Brain Res. 364, 338-349. Ross, E.D., & Mesulam, M.M. (1979). Dominant language functions of the right hemisphere?; Prosody and emotional gesturing. Arch. Neurology 36, 144-148. Ryding, E., Eriksson, M.B.E., Rosen, I., and Ingvar, D.H. (1965), Regional cerebral blood flow (rCBF) in man during perception of radiant

warmth and heat pain. Pain 22, 353-362. Saade NE, Atweh SF, Bahuth NB, Jabbur SJ. Augmentation of nociceptive reflexes and chronic deafferentation pain by chemical lesions of either dopaminergic terminals or midbrain dopaminergic reurons. Brain Res. 1997 Mar 14;751(1):1-12 Sackeim, H.A., Prohovnik, I., Moeller, J.R., Brown, R.R., Apter, S., Prudic, J., Devanand, D.P., & Mukherjee, S. (1990). Regional cerebral blood flow in mood disorders. Arch. Gen. Psychiatry 47, 60-70.

Salamone, I.D., Cousins, M.S., and Snyder, 8 (1997). Behavioral functions of nucleus accumbens dopamine empirical and conceptual problems with the anhedonia hypothesis. Neurosci. Biobehav. Rev. 21:341-59

Salamone, J., Cousins, M., McCułłotoh, D., Camero, D., and Berkowitz, R. (1994). Nucleus accumbens dopamine release increases during instrumental lever pressiing for tood but not free food consumption. Pharmacol. Biochem. Behav. 49, 25-31. \* Sandyk R, Bamford CR, Iacono RP. Pain and sensory symptoms in Parkinson's disease. Int J Neurosci. 1988 Mar;39(1-2): 15-25.

Schlaepfer, T.E., Strain, E.C., Greenberg, B.D., Preston, K.L., Lancaster, E., Bigelow, G.E., Barta, P.E., and Pearlson, G.D. (1998). Site of opioid action in the human brain; mu and kappa agonists' subjective and cerebral blood flow effects. Am. J. Psychiatry 155(4), 470-Schultz, W., Dayan, P., and Montague, P.R. (1997). A neural substrate of prediction and reward. Science 275, 1593-1599.

\*

Schultz et al. (1995), in Models of Information Processing in the Basal Ganglia, Houk, J.C., Davis, J.L., and Beiser, D.G. (eds.) rvnT Press, Cambridge, MA, 233-248. Schultz, W., Apicella, P., and Ljungborg, T. (1993). Responso:s of monkey dopamine neurons to reward and conditioned stimuli during

successive steps of learning a delayed response task. I. Neuroscience 13(3), 900-913. Schultz, W., and Romo. R. (1990). Dopamine neurons of the monkey midbrain: contingencies of responses to stimuli eliciting immediate behaviord! reactions. J. Neurophysiol. 63, 607 -624.

Schuftz, W. (1986). Responses of midbrain dopamine neurons to behavioral trigger stimuli in the monkey. Journal of Neurophysiology \* 56, 1439-1461

Schultz, W. (1997). Dopamine neurons and their role in reward mechanisms. Curr .Opin. Neurobiol. 7, 191-197. \*

Schultz, W., Apicella, P., Scamati, E., and Ljungborg, T. (1992). Neuronal activity in monkey ventral striatum related (to the expectation of reward. I. Neurosci. 12, 4595-4610.

Seidman, L.J., Breiter, H.C., Goodman, J.M., Goldstein, J.M., Woodruff, P. W.R., O'Craven, K., Savoy, R., Tsuang, M.T., & Rosen, B.R. (1998). A functional magnetic resonance imaging study of auditory vigilance with low and high infornation processing demands. Neuropsycholgy 12, 505-518.

Sell LA, Moms J, Beam I, Frackowiak RS, Friston KJ, Dolan RI. Activation of reward circuitry in human opiate addicts. Eur J Neurosci. 1999 Mar; 11(3): 1042-8.

Examiner Date

Forin	PTO-1449
(Rev.	8-83)

ATTY. DOCKST NO. MGH-004AUS APPLICATION NO. 09/729,665

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARKS OF CENTRED U.S. DEVAL.

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### **U.S. PATENT DOCUMENTS**

				U.S.	PATENT DO	CUMEN 15		· · · · · · · · · · · · · · · · · · ·					
EXAMINER INITIAL		DO	CUMENT NUM	IBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE*				
						r, Title, Date, Pertinent P							
	*	Sergent, J., Ohta, S., & MacDonald, B. (1992). Functional neuroanatomy of face and object processing. Brain 115, 15-36.											
	*	Serratrice O, Michel B. Pain in Parkinson's disease patients. Rev Rhum Engl Ed. 1999 Jun;66(6):331-8.											
	*	Shi, C., Davis, M. Pain Pathways involved in fear conditioning measured with fear-potentiated startle: lesion studies, The Journal of Neuroscience, Jan. 1, 1999, 19(1): 420-430.											
	*	Shizgal P. Neural basis of utility estimation. Current Opin Neurobiol. 1997 Apr;7(2): 198-208.											
	*	Shizgal, P., Schindler, D., and Rompre, PP. (1989). Forebrain neurons driven by rewarding stimulation of the medial forebrain bundle in the rat: comparison of psychophysical and electrophysiological estimates of refractory periods. Brain Res. 499, 234-248.											
	*	Sikes, R.W., and Vogt, B.A. (1992). Nociceptive neurons in area 24 of rabbit cingulate cortex. I Neurophysiol. 68(5): 1720-1732.											
·	*	Silfverskiold, P.,& Risberg, J. (1989). Regional cerebral blood flow in depression and mania. Arch. Gen. Psychiatry 46, 253-259.											
	*	Spiegler, 8.J., Mishkin, M. (1981). Evidence for the sequential participation of inferior temporal cortex and amygdala in the acquisition of stimulus-reward associations. Bchav. Brdin Res. 3, 303-317.											
	*	Spinoza, B. The Ethics -Part III: On the origin and nature of the amotions. In: The Ethics. Elwes, R.H.M. (Ed). 1883 Princeton Univ. Pres											
	*	Stein, E.A., Pankiewicz, J., Harsch, H.H., Cho, J.K., Puller, S.A., Hoffmann, R.G., Hawkins, M., Rao, S.M., Bandeltini, P.A., and Bloom, A.S. (1998). Nicotine-Induced limbic cortical activation in the human brain: a functional MRI study. Am. J. Psychiatry 155(8), 1009-1015.											
	*	Stem, C.E., and Passingham, R.E. (1996). The nucleus accumbens in monkeys (Macaca fascicularis): Il Emotion and motivation. Behav. Brain Res. 75, 179-193.											
	*	Sutton, J.P., and Breiter, H.C. (1994). Neural scale invariance: an integrative model with implications for neuropathology. World Conference on Neural Networks. 3,667,672.											
	*	Sutton, S.K.,	and Davidson,	R.J. (1997). Pret	frontal brain sym	metry: a biological sub							
	*	Svoboda, K.R., Adams, C.E. and Lupica, C.R. (1999). Opioid receptor subtype expression defines morphologically distinct classes of bippocampal interneurous Vieurosci. 19(1), 85-95.											
	*	Talbot, I.D., Marrett, S., Evans, A.C., Meyer, E., Bushnell, M.C., and Duncan, G.H. (1991). Multiple representations of pain in human cerebral cortex. Science 251,1355-1358.											
	*	Talairach, I., and Tournoux, P. (1988). Co-planar Stereotaxic Atlas of the Human Brain Thieme Medical Publishers, New York, 2 pgs.											
	*	Thut, G., Schultz, W., Roelcke, U., Nienhusmeier, M., Missimer, I., Maguire, R.P., and Leenders, K.L. (1997). Activation of the human brain by monetary reward. NeuroReport 8, 1225-1228.											
	*	Toile TB KaufmalU1 T, Siessmeier T, Lautenbacher S, Berthele A, Munz F, Zieglgansberger W, Willoch F, Schwaiger M, Conrad B, Bartenstein P. Region-specific encoding of sensory and affective components of pain in the human brain: a positron emission tomography correlation analysis. Ann Neurol. 1999 Jan;45(1):40-7.											
	*	Footell RB, H	adjikhani N. Att	ention -brains at	work! Nat Neur	osci. 2000 Mar;3(3):206	6-208.						
	*/					). New images from hur							
	*	analysis of hu	iman MT and re	lated visual cod	tical areas using	n, R.T Brady, TJ., Rosei magnetic resonance in	naging, J. Neuro	sci. 15. 3215-32	30.				
$\overline{}$	*	Treede RD, M	leyer RA, Raja : onkev skin. J Pl	SN, Campbell II hysiol (Lond), 19	N. Evidence for t 995 Mar 15:483	wo different heat transo ( Pt 3):747-58.	duction mechanis	sms in nocicepti	ve primary afferents				
	*	Tremblay L, S	Schultz w. Relati	ve reward prefe	erence in primate	e orbitofrontal cortex. Na							
	*	enkenhalin in	the pentobarbit	al- anesthesized	d rat. J. Pharmai	lly sensitive to β-endorp col. Ex.p. Ther. 261(3),	1028-1036						
	*					ior cingulate cortex. Na							
	*	hyperalgesia i	in the rat. Neuro	science, 1999 l	May:90(2):349-5	luences from the rostra 2.							
	*	lateralized her	mispheric dysfu	nction in depres	sion. Brit. J. Psy	vski, P., & Mendlewicz, ychiatry 143, 128-132.							
	*	Vaccarino, F.I reward in the	l., Bloom, F.E., a rat. Psychophar	and Koob, G.F. macology 86, 3	(I985). Blockade 7 -42.	of nucleus accumbens	opiate receptor	s attenuates the	intravenous heroin				
		Date			Examiner								

Form PTO-1449 (Rev. 8-83)

## U.S. DEP. MENT OF COMMERCE PATENT AND TRADEMARK OFFICE

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EXAMINER INITIAL		DOCUMENT NUMBER	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE*									
		OTHER DOCUMENTS (	including Autho	r, Title, Date, Pertinent Page	s, Etc.)									
	*	Vogt, B.A., Wiley, R.a., and Jensen, E.L (199 projection neurons and input/output model of	mu regulation.	Exp. Neural. 135(2), 83-92										
	*	Volkow, N.D., Wang, G.J., Fischman, M. W., Foltin, R. W., Fowler, J.S., Aburnrad. N.N., Vitkun, \$., Logan, J., aatley, \$.↑., Pappas, N., Hitzemann, R., and Shea, C.E. (1997). Relationship between subjective effects of cocaine and dopaminergic transporter occupancy. Nature 386, 827-830.  Wang, H., aracy, K.N., and Pickel, V.M. (1999). μ-opioid and NMDA-type glutamate receptors are often cofocaJized in spiny neurons within patches of the caudate-putamen nucleus. J. Comp. Neurol. 412(1), 132-145.  Watanabe, M. (1996). Reward expectancy in primate prefrontal neurons. Nature 382, 629- 632.												
	*													
	*	Watanabe, M. (1996). Reward expectancy in	primate prefron	tal neurons. Nature 382, 6	29- 632.									
	*	effects of amygdala, dorsal raphe, ventral medullary, and spinal cord lesions on antianalgesia in the rat. Behav Neurosci. 1998 Apr;												
	* Whalen, P.J., Rauch, S.L., Etcoff, N.L., McInemey, S.C., Lee, M.B. and Jenike, M.A. (1998). Masked presentations of emot expressions modulate amyodala activity without explicit knowledge. V. Neurosci. 18, 411-418.													
	Wise RA. Addictive drugs and brain stimulation reward. Annu Rev Neurosci. 1996; 19:319-40.													
	*	Woodruff, G.N., McCarthy, P.S., and Walker, Brain Res. 115, 233-242.	\ 1 \											
·····	*	Woods, R.P., Cherry, S.R., and MaZ2 intta, S.												
	*	Total C. Donney Control of the Contr												
<del></del>	*	Yaksh, T.L. (1997). Pharmacology and mecha												
	*	Yaari, A., Eisenberg, E., Adler, R., Chronic pa 1999, 1810-187.												
	*	Yoshida, M., Yokoo, H., Mizoguchi, K., Kawah dopamine release in the nucleus accumbens Letters 139 (192) 73-76. May 1992.	and ventral teg	mental area in the rat: mea	asurement by	in vivo microdia	lysis, Neuroscience							
	*	Yu. L.C., and Han, J.S. (1989). Involvement of periaqueductal grey subserving an antiinocice	ptive effect. Int	. J. Neurosci. 48(1-2), 71-7	78.									
	*/	Zubieta, IK., Dannals, R.F., and Frost, 1.1. (1 PET, Am. I. Psychiatry 156(6),842-848.	1999). Gender	and age influences on hun	nan brain mu-									
	*	Zubieta, IK., Oorelick, D.A., Stauffer, R., Rav detected by PET in cocaine-dependent men is	ert, H.T., Dann associated wi	als, R.F., and Frost, J.J. ( th cocaine craving. Nat. M	1996). Increa ed. 2( II ), 122	sed mu opiod re 25-1229.	ceptor binding							
/		Date	Examiner				•							

Form PTO-1449 (Rev. 8-83)

## U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO. MGH-004AUS

APPLICATION NO. **09/729,665** 

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(Use several sheets if necessary)

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Hans C. Breiter et al.

FILING DATE

**December 4, 2000** 

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TENT DOCUMENTS

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	*	3	9	9	8	2	0	9	12/21/76	Macvaugh				
	*	5	0	1	1	8	4	6	4/30/91	Gittos et al.	1			
	*	5	. 1	8	9	0	6	4	2/23/93	Blum et al.			/	
	*	5	5	5	2	4	0	6	9/3/96	Mendelson et al.			<u> </u>	
	*	5	5	5	9	1	2	5	9/24/96	Kulagowski et al.	1			
	*	5	6	5	6	2	6	7	8/12/97	Sagen et al.				
	*	5	9	2	5	6	3	4	7/20/99	Olney				
	*	6	0	1	5	7	8	6	1/18/00	Mascarenhas et al.				
	*	6	0	2	5	3	3	2	2/15/00	Masearenhas et al.				
	*	6	0	2	5	3	6 .	8	2/15/0	Mascarenhas et al.	-			
	*	6	0	9	9	3	1	30	8/8/00	Zaltman et al.				
	*	5	2	3	4	6_	8	) <sub>0</sub> /	8/10/93	Rogers, Jr. et al.				
	*	5	3	2	0	8	2	5	6/14/94	Kung				
	*	5	3	2	4	5	16	4	6/28/94	Roger, Jr. et al.				
	*	5	3	9	7	15	6	3	3/14/95	Rogers, Jr. et al.				
	*	5	5	7	4	1	4	0	11/12/96	Pollack et al.				
	*	5	6	15	9	0	4	1	8/19/97	Pollack et al.				
	*	5	18	5	8_	3	2	7	1/12/99	Pollack et al.				
	*	8	9	5	8	5	9	6	9/28/99	Renshaw et al.				
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